

87th Midwest PDE Seminar – Program
May 5–7 (Friday-Sunday), 2023
Department of Mathematics, University of Notre Dame

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Friday, May 5, 2023

- **12:00-1:00**, *Registration and Refreshments*, Hurley 257 (Main Talks in Hayes-Healy 127)
- **12:50–1:00**, *Welcoming Remarks* (Hayes-Healy 127)
- **1:00-1:50**, Jerry Bona, University of Illinois – Chicago, “*Nonlinearity, Dispersion and Dissipation*”
- **2:00-2:50**, Hongqiu Chen, University of Memphis, “*The long wavelength limit of Periodic solutions of water wave models*”
- **2:50-3:20**, *Tea & Coffee Break*
- **3:20-4:10**, Lu Wang, Yale University, “*A mean curvature flow approach to density of minimal cones*”
- **4:20-5:10**, Adrian Lam, Ohio State University, “*A Hamilton-Jacobi approach for nonlocal competition models of many species*”

Short Talks – Session I, Hayes – Healy 127

- **5:15-5:35**, Fangchi Yan, Virginia Tech, “*The Schrödinger-Korteweg-De Vries system on the half-line*”
- **5:35-5:55**, Feride Tigley, The Ohio State University, “*Integrating evolution equations using Fredholm determinants*”

Short Talks – Session II, Hayes – Healy 129

- **5:15-5:35**, Ruoyu Wang, Northwestern University, “*Damped waves with singular damping on manifolds*”
- **5:35-5:55**, Wenchuan Tian, UCSB, “*Compactness conjecture for closed Riemannian 3-manifold with non-negative scalar curvature*”

Short Talks – Session III, Hayes – Healy 117

- **5:15-5:35**, Pamela Guerrero, University of Memphis, “*Study of a Modified BBM Equation*”
- **5:35-5:55**, Mashud MD Parvez, Old Dominion University, “*The Coupling Conduction Effects on Natural Convection Flow along a Vertical Flat Plate with Joule Heating and Heat Generation*”

Saturday, May 6, 2023

- **8:00-8:55**, *Registration and Refreshments*, Hurley 257 (Main Talks in Hayes-Healy 127)
- **8:55-9:00**, *Announcements & Remarks* (Hayes-Healy 127)
- **9:00-9:50**, Peter Constantin, Princeton University, “*Pressure, Intermittency, Singularity*”
- **10:00-10:50**, Natasa Pavlovic, University of Texas – Austin, “*Two tales of a rigorous Derivation of the Hamiltonian Structure*”
- **10:50-11:10**, *Tea & Coffee Break*
- **11:10-12:00**, Barbara Keyfitz, Ohio State University, “*Singular Shocks, A Conservation Law Model in Chromatography, and Geometric Singular Perturbation Theory*”
- **12:00-1:30**, *Lunch*, Hurley 257
- **1:30-2:20**, Shuwang Li, IIT – Chicago, “*PDE modeling and computation of fluid-structure interaction problems*”
- **2:30-3:20**, Marta Lewicka, University of Pittsburgh, “*The Monge-Ampere system: flexibility in arbitrary dimension and codimension*”
- **3:20-3:40**, *Tea & Coffee Break*
- **3:40-4:30**, Monica Visan, University of California – Los Angeles, “*The derivative nonlinear Schrodinger equation*”

Short Talks – Session I, Hayes – Healy 127

- **4:40-5:00**, Curtis Holliman, The Catholic University of America, “*Blow-up conditions for generalizations of the Camassa-Holm Equation*”
- **5:00-5:20**, Thierry Laurens, University of California - Los Angeles, “*Sharp well-posedness for the Benjamin-Ono equation*”
- **5:20-5:40**, John Holmes, The Ohio State University, “*Continuity of the data-to-solution map for conservation laws*”

Short Talks – Session II, Hayes – Healy 129

- **4:40-5:00**, Lakhdari Abderrahmane, University of Tunis El Manar, “*Multiplicity of solutions for a problem in double weighted Orlicz-Sobolev spaces and its spectrum*”
- **5:00-5:20**, Amir Sagiv, Columbia University, “*Effective Gaps in Floquet Hamiltonians*”
- **5:20-5:40**, GiangVuThanh Nguyen, Old Dominion University, “*Asymptotic expansion of a singular potential near the nematic-isotropic phase transition point in the Landau-de Gennes theory*”

Short Talks – Session III, Hayes – Healy 117

- **4:40-5:00**, Jincheng Yang, University of Chicago, “*Layer separation, anomalous dissipation, and drag force in the inviscid limit for 3D NSE*”
- **5:00-5:20**, Joon Do Chang, University of Memphis, “*Local Well-Posedness of the BBM Equation*”
- **5:20-5:40**, Jeongsu Kyeong, Temple University “*Multilayer potentials associated with the higher-order Cauchy-Riemann operator in Uniformly Rectifiable domains*”

6:30, Conference Dinner, McKenna Hall 205/206/207

Sunday, May 7, 2023

- **8:00-8:15**, *Tea & Coffee*

Short Talks – Session I, Hayes – Healy 127

- **8:15-8:35**, Ryan Thompson, University of North Georgia, “*Classical Solutions of the Fornberg-Whitham Equation*”
- **8:35-8:55**, Brian Reyes, University of Notre Dame, “*On the Cauchy problem of the modified b-family*”

Short Talks – Session II, Hayes – Healy 129

- **8:15-8:35**, Jeaheang Bang, University of Texas at San Antonio, “*Rigidity of Solutions to the Stationary Navier-Stokes Equations in High Dimensions*”
- **8:35-8:55**, Ilya Marchenko, University of Notre Dame, “*Asymptotic Expansions at Infinity up to Arbitrary Order for Solutions of Special Lagrangian Equations*”

- **8:15-8:35**, Nicholas Lohr, Northwestern University, “*Semiclassical measures of eigenfunctions of the hydrogen atom*”
- **8:35-8:55**, Luan M. Doan, University of Notre Dame, “*The heat kernels, the coherent state transforms on the spheres, and the large- N limit problems*”

Main Talks, Hayes-Healy 127

- **9:00-9:50**, Yanyan Li, Rutgers University, “*Some recent results on conformally invariant equations*”
- **9:50-10:10**, *Tea & Coffee Break*
- **10:10-11:00**, Yu Yuan, University of Washington, “*Hessian estimate for the sigma-2 equation in dimension four*”
- **11:10-12:00**, Carlos Kenig, University of Chicago, “*New channels of energy for wave equations, new non-radiative solutions and soliton resolution*”

End of 87th Midwest PDE Seminar!
